# DH-IPC-HDW2541T-S

## 5MP IR Fixed-focal Eyeball WizSense Network Camera

WizSense

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides  intelligent, simple and inclusive products and solutions.

## System Overview

With advanced deep learning algorithm, Dahua WizSense 2 Series network camera supports intelligent functions, such as perimeter protection and smart motion detection. With starlight technology, this series camera provides a better image effect in the condition of low illuminance.

## Functions

### SMD Plus

With intelligent algorithm, Dahua Smart Motion Detection technology can categorize the targets that trigger motion detection and filter the motion detection alarm triggered by non-concerned targets to realize effective and accurate alarm.

### Smart H.265+ & Smart H.264+

With advanced scene-adaptive rate control algorithm, Dahua smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.
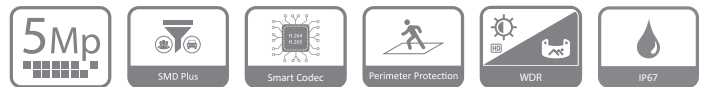
### Perimeter Protection

Automatically filtering out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improving alarm accuracy.

### WDR

With advanced Wide Dynamic Range (WDR) technology, Dahua network camera provides clear details in the environment of strong brightness contrast. The bright and dark area can get clear video even in high brightness environment or with backlight shadow.

- 5-MP 1/2.7" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 5 MP (2592 × 1944) @20 fps, and supports 4 MP (2688 × 1520) @25/30 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- Built-in IR LED, and the max. illumination distance is 30 m.
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments.
- Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- Intelligent monitoring: Intrusion and tripwire(the two functions support the classification and accurate detection of vehicle and human).
- Abnormality detection: Motion detection, video tampering, scene changing, audio detection, no SD card, SD card full, SD card error, network disconnection, IP conflict, illegal access, and voltage detection.
- Supports max. 256 G Micro SD card;built in 1-channel MIC.
- 12 VDC/PoE power supply, easy for installation.
- IP67 protection.
- SMD Plus.

| 5Mp | SMD Plus | Smart Codec | Perimeter Protection | WDR | IP67 |
|---|---|---|---|---|---|

### Cyber Security

Dahua network cameras employ a series of security technologies, including security authentication and authorization, access control protocols, trusted protection, encrypted transmission and encrypted storage. These technologies improve the camera's defense against external cyber threats and prevent malicious programs from compromising the device.

### Protection (IP67, Wide Voltage)

IP67: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can works normal after soaking in 1 m deep water for 30 minutes.
Wide voltage: The camera allows ±30% (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/2.7" CMOS |
| Max. Resolution | 2592 (H) × 1944 (V) |
| ROM | 128 MB |
| RAM | 512 MB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto/Manual 1/3 s–1/100,000 s |
| Min. Illumination | 0.005 lux@F1.6 (Color,30 IRE)<br>0.0005 lux@F1.6 (B/W,30 IRE)<br>0 lux (Illuminator on) |
| S/N Ratio | >56 dB |
| Illumination Distance | 30 m (98.43 ft) (IR LED) |
| Illuminator On/Off Control | Auto;Manual |
| Illuminator Number | 1(IR LED) |
| Pan/Tilt/Rotation Range | Pan: 0°–360°<br>Tilt:0°–78°<br>Rotation:0°–360° |

### Lens

| | |
|---|---|
| Lens Type | Fixed-focal |
| Lens Mount | M12 |
| Focal Length | 2.8 mm; 3.6 mm |
| Max. Aperture | F1.6 |
| Field of View | 2.8 mm: H: 97°; V: 71° ; D: 129°<br>3.6 mm: H: 80°; V: 57° ; D: 107° |
| Iris Control | Fixed |
| Close Focus Distance | 2.8 mm: 1.1 m (3.61 ft)<br>3.6 mm: 1.7 m (5.58 ft) |

| DORI Distance | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| | 2.8 mm | 63.6 m (208.66 ft) | 25.4 m (83.33 ft) | 12.7 m (41.67 ft) | 6.4 m (21.00 ft) |
| | 3.6 mm | 85.4 m (280.18 ft) | 34.2 m (112.20 ft) | 17.1 m (56.10 ft) | 8.5 m (27.89 ft) |

### Intelligence

| | |
|---|---|
| IVS (Perimeter Protection) | Tripwire; intrusion(the two functions support the classification and accurate detection of vehicle and human) |
| Smart Search | Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos |

### Video

| | |
|---|---|
| Video Compression | H.265; H.264; H.264H; H.264B; MJPEG (Only supported by the sub stream) |
| Smart Codec | Smart H.265+; Smart H.264+ |
| Video Frame Rate | Main stream: 2592 × 1944@(1–20 fps)/2688 × 1520@(1–25/30 fps)<br>sub stream: 704 × 576@(1–25 fps)/704 × 480@(1–30 fps) |
| Stream Capability | 2 streams |

| | |
|---|---|
| Resolution | 5M (2592 × 1944); 4M (2688 × 1520); 3M (2304 × 1296); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240) |
| Bit Rate Control | CBR/VBR |
| Video Bit Rate | H.264: 3 kbps–8192 kbps<br>H.265: 3 kbps–8192 kbps |
| Day/Night | Auto(ICR)/Color/B/W |
| BLC | Yes |
| HLC | Yes |
| WDR | 120 dB |
| Scene Self-adaptation (SSA) | Yes |
| White Balance | Auto; natural; street lamp; outdoor; manual; regional custom |
| Gain Control | Auto;Manual |
| Noise Reduction | 3D DNR |
| Motion Detection | OFF/ON (4 areas, rectangular) |
| Region of Interest (RoI) | Yes (4 areas) |
| Smart Illumination | Yes |
| Image Rotation | 0°/90°/180°/270° (Support 90°/270° with 1080p resolution and lower) |
| Mirror | Yes |
| Privacy Masking | 4 areas |

### Audio

| | |
|---|---|
| Built-in MIC | Yes |
| Audio Compression | G.711a; G.711Mu; PCM; G.726 |

### Alarm

| | |
|---|---|
| Alarm Event | No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; tripwire; intrusion; scene changing; audio detection; voltage detection; SMD; security exception |

### Network

| | |
|---|---|
| Network Port | RJ-45 (10/100 Base-T) |
| SDK and API | Yes |
| Cyber Security | Video encryption; firmware encryption; configuration encryption; Digest; WSSE; account lockout; security logs; IP/MAC filtering; generation and importing of X.509 certification; syslog; HTTPS; 802.1x; trusted boot; trusted execution; trusted upgrade |
| Network Protocol | IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; SAMBA; PPPoE; SNMP |
| Interoperability | ONVIF (Profile S/Profile G/Profile T); CGI; P2P; Milestone; Genetec |
| User/Host | 20 (Total bandwidth: 64 M) |
| Storage | FTP; SFTP; Micro SD card (support max. 256 GB); NAS |
| Browser | IE<br>Chrome<br>Firefox |

| Management Software | Smart PSS; DSS; DMSS |
|---|---|
| Mobile Client | iOS; Android |

## Certification

| Certifications | CE-LVD: EN62368-1<br>CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU<br>FCC: 47 CFR FCC Part 15, Subpart B |
|---|---|

## Power

| Power Supply | 12 VDC/PoE (802.3af) |
|---|---|
| Power Consumption | Basic: 3.8 W (12 VDC); 4.9 W (PoE)<br>Max(WDR + IR intensity + Intelligence on): 6.1 W (12 VDC); 6.7 W (PoE) |

## Environment

| Operating Temperature | −40 °C to +60 °C (−40 °F to +140 °F) |
|---|---|
| Operating Humidity | ≤95% |
| Storage Temperature | −40 °C to +60 °C (−40 °F to +140 °F) |
| Protection | IP67 |

## Structure

| Casing | Inner core: Metal<br>Cover: Plastc |
|---|---|
| Product Dimensions | 100.9 mm × Φ109.9 mm (3.97" × Φ4.33") |
| Net Weight | 392 g (0.86 lb) |
| Gross Weight | 572 g (1.26 lb) |

## Ordering Information

| Type | Model | Description |
|---|---|---|
| 5MP Camera | DH-IPC-HDW2541T-S-0280B | 5MP IR Fixed-focal Eyeball WizSense Network Camera |
| | DH-IPC-HDW2541T-S-0360B | 5MP IR Fixed-focal Eyeball WizSense Network Camera |
| Accessories (Optional) | PFA13G | Junction Box |
| | PFB205W-E | Wall Mount Bracket |
| | PFA109 | Mount Adapter |
| | PFA152-E | Pole Mount Bracket |
| | PFB220C | Ceiling Mount Bracket |
| | PFM321D | 12V DC 1A Power Adapter |
| | PFM900-E | Integrated Mount Tester |
| | TF-P100 | MicroSD Memory Card |

## Accessories

Optional:



PFA136
Junction
Box

PFB205W-E
Wall Mount
Bracket

PFA109
Mount
Adapter
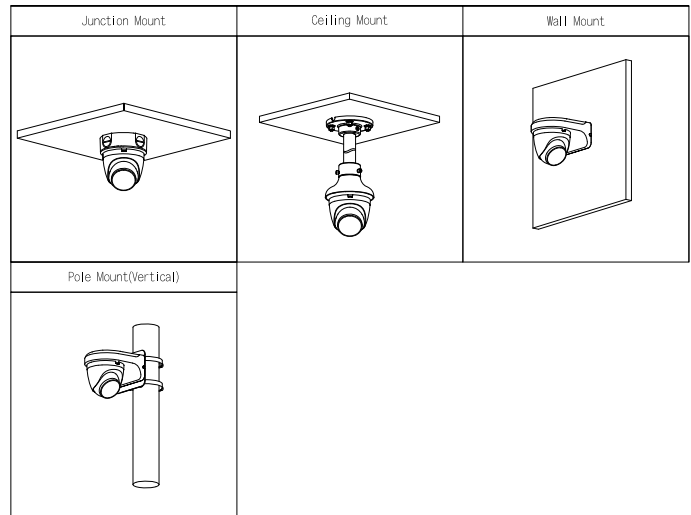
PFA152-E
Pole Mount
Bracket

PFB220C
Ceiling Mount
Bracket

PFM321D
12V DC 1A
Power Adapter

PFM900-E
Integrated
Mount Tester

TF-P100
MicroSD
Memory Card

| Junction Mount | Ceiling Mount | Wall Mount |
|---|---|---|
| | | |

| Pole Mount(Vertical) | |
|---|---|

## Dimensions (mm[inch])



83.3 [3.28]
4−4.5×5.5
⌀84.0 [⌀3.31]
⌀109.9 [⌀4.33]
100.9 [3.97]
3~120°